



# ETHNOBOTANICAL STUDY OF KANI TRIBES IN KEERIPARAI OF KANYAKUMARI DISTRICT, SOUTH INDIA

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## ABSTRACT

The present study is an attempt to document the ethnomedicinal knowledge of two Kani tribal communities residing in Keeriparai, Kanyakumari District, Tamil Nadu, South India. Ethnobotanical uses of medicinal plants were obtained from them through intensive interviews from traditional practitioners and few elderly people. In the present survey, 83 plant species belonging to 40 families often used by Kanis for their common ailments are documented. The results add new data to the ethno pharmacological literature and provide information that could be useful for the development of new drugs.

**KEYWORDS :** Kanis, ethnobotany, pharmacology, documentation.

## Introduction:

Traditional medicinal plants have been found to play an important role in the primary health care and treatment of diseases. India possesses almost 8% of the estimated biodiversity of the world with around 1,26,000 species. This is because of its varied geographical and climatic conditions<sup>[1,2]</sup>. Ethnobotanical studies that search to rescue traditional botanical knowledge related to a specific flora have shown to be an important tool to record plant data. Currently, the use of plants is normally for therapeutic purposes and based on popular indigenous knowledge. Documentation of indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources<sup>[3]</sup>. Traditional medicine still remains the main resource for the hill tribes and rural communities for treating health problems<sup>[4,5,6]</sup>. They have a sound knowledge on the useful and harmful properties of plants through their constant association with plants. The practice of traditional medicine is based on the knowledge that has been passed orally from generation to generation. Only a very few written documents are available, because the language used by the tribals are not having the script.

Ethnobotanical surveys help the suitable source of information regarding useful plants and process of domestication<sup>[7]</sup>. Ethnobotanical studies have gained momentum now-a-days to explore the traditional knowledge particularly in developing countries. But in our country, there is a lack of ethnobotanical survey carried out in most parts. Similarly very few authentic reports on ethnobotanical studies are available about tribal communities of different hilllocks of Western Ghats<sup>[5,7-10]</sup>. Preserving the knowledge of tribal community and documentation of the traditional uses of medicinal plants is the useful need of the hour. Hence the present study is undertaken to investigate the medicinal efficacies and methods of plant utilization of Kani tribes in Keeriparai hills of Kanyakumari district.

## Materials and Methods:

**a. Study Area:** Keeriparai is situated about 28 km from Nagercoil town of Kanyakumari District, Tamilnadu, South India. Kanyakumari district is the southernmost tip of India with Kerala in the North-West, Tirunelveli district in North-East, Arabian Sea in South-West, Bay of Bengal in South-East and Indian Ocean in South. Kanyakumari forest division contributes the southern tip of the Western Ghats forest. Survey and documentation of medicinal plants were carried out in two Kani locations in Keeriparai, i.e., Vellambi Malai and Kuvai Kadu from June 2014 to March 2015. These villages are at a height of about 1000 feet and 600 feet respectively above the mean sea level. The main occupation of the Kanis are rubber tapping, hunting, honey collection, basket making, collecting medicinal plants and sending them to different Vaidyars or Asans in the plains through agents.

**b. Interview with traditional healers:** The ethnobotanical information was collected from the indigenous people of different age groups by interviewing them and filling a questionnaire for documentation. The information was gathered from respondents who use plants for self medication and from people who treat others for ailments. From the informants, information on medicinal plants with their local names, parts in use, mode of preparation and administration were obtained. The reliability of the information of the plants used was assessed after repeated verification. The plants specimens were collected and the botanical names and families were identified with the help of regional floras<sup>[12, 13]</sup> and finally confirmed by comparing with the authenticated specimens in the Herbarium of Botanical Survey of India, Coimbatore, Tamilnadu, South India.

## Results and Discussion:

A total of 83 medicinal plants were documented. The reported medicinal plants belongs to 40 plant families and are listed in Table. 1, where the scientific and vernacular names, status, plant parts used, a description of the uses and the number of popular uses are depicted. Regarding the plants mentioned by the respondents, the most-cited families were Fabaceae and Asclepiadaceae. This result could be related to the fact that these families are easy to cultivate and are mostly herbaceous plants. Most healers use plants that are easily accessible and available for the treatment of minor and common illnesses. It was observed that majority of the plants were used by the inhabitants for treating various ailments like cold, cough, fever, dysentery, piles, arthritis, digestive problems, skin diseases, bone fracture etc.,. People use plants like *Aristolochia indica* L., *Naravelia zeylanica* (L.)DC., *Pergularia daemia* (Forssk.) Chiov., *Rauvolfia serpentina* (L.) Benth. ex Kurz. and *Zingiber zerumbet* (L.) J.G. Smith as antidote against snake bite. Jaundice is treated effectively by using *Phyllanthus niruri* L. To treat skin ailments, plants such as *Abrus precatorius* L., *Albizia odoratissima* (L.) Benth., *Aristolochia indica* L., *Gliricidia sepium* (Jacq.) Kunth ex Walp. and *Heliotropium indicum* L. are used. People also make use of *Thespesia lampus* L. and *Evolvulus alsinoides* L. to cure dysentery. It also come into notice that in spite of whole plant, various plant parts are used in the form of decoction, infusion, paste or powder. The medicine is administered mostly with additives like honey or coconut milk or cow milk or rice water. This is due to the fact that different plant parts have various active ingredients<sup>[9,10]</sup>. As observed in the present study, the use of plants requires different routes of administration. Some of them are taken orally while others may be applied externally. It was very common for one species to be used to treat two or more diseases.

The results of the present study provide evidences that the most frequently used plant parts are leaves. This information is similar to the findings of<sup>[4,5,8,14,15]</sup>. From the analyses of the data, it is clear that, Kanis use herbs (48%), followed by climbers (28%), trees (12%), shrubs (11%), and lianas (1%) (Fig. 1). Since indigenous medicinal plants continue to play an important role in the health care system of this tribal community, conservation of such plants is of paramount importance. To preserve these valuable natural resources, the existing traditional knowledge needs systematic and scientific documentation. Therefore, measures should be initiated to document the indigenous uses, traditional knowledge and practice of ethnobotany besides conservation of ethno botanical biodiversity<sup>[14,16-18]</sup>. A deeper study on biological and ecological characteristics of species would be essential, especially for the most exploited species, in order to establish a better sense of potential biodiversity and traditional plant loss if conservation methods are not put into place.

## Conclusion:

It is an urgent need of the hour to preserve the dwindling rich natural heritage because the informants themselves informed that many medicinal plants have been disappearing from the forest for the past few decades. The respondents explained with the proof that they have to walk or trek long distance to collect medicinal plants that had earlier been easily available in close proximity to their settlements. Similarly, the elder informants felt that their mode of treatment of diseases is slowly vanishing due to modernization and the younger generation is not showing any interest in learning these practices.

Table: 1 – List of Plants Collected from Kani tribes of Keeriparai

Botanical Name	Family	Habit	Vernacular Name	Useful parts	Medicinal Uses
<i>Abrus precatorius</i> L.	Fabaceae	Climber	Kunnimuthu	Seeds	Skin diseases
<i>Acalypha indica</i> L.	Euphorbiaceae	Herb	kuppaimeni	Leaves	Deworming, bronchitis, asthma and rheumatism
<i>Aloe vera</i> (L.) Burm.f.	Liliaceae	Succulent herb	Chothu Kathalai	Leaves	Body coolant, pimples and boils
<i>Albizia odoratissima</i> (L.) Benth.	Mimosaceae	Tree	Silai Maram	Bark	Leprosy, skin disease and burning sensation
<i>Amphorhallus paeoniifolius</i> (Dennst.) Nicolson	Araceae	Herb	Mul- chenai.	Corn	Piles, elephantiasis, dysentery and abdominal pain
<i>Anamirta cocculus</i> (L.) Wight & Arn.	Menispermaceae	Climber	Kakamari	Berry	Removes gas from the intestine and rheumatism
<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees.	Acanthaceae	Herb	Nilavembu	Leaves	Rheumatism and respiratory illness
<i>Anisochilus suffruticosus</i> Wight	Lamiaceae	Shrub	Iruveli	Leaves	Kidney stone
<i>Aristolochia indica</i> L.	Aristolochiaceae	Climber	Garudakodi	Leaves	Skin diseases and antidote for snake bite
<i>Bacopa monnieri</i> (L.) Pennell	Scrophulariaceae	Creepeing herb	Neerbrahmi	Leaves	Ulcers, tumours, indigestion and epilepsy
<i>Caralluma adscendens</i> (Roxb.) R.Br.	Asclepiadaceae	Succulent herb	Kallimulayam	Stem	Enhance stamina and to control appetite
<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Climber	Mudakathan	Leaves	Relieves body pain
<i>Cassia occidentalis</i> L.	Caesalpiniaceae	Shrub	Thagarai	Leaves	Itching eruption
<i>Centella asiatica</i> (L.) Urban	Apiaceae	Herb	Vallaarai	Leaves	Leprosy, eczema and psoriasis
<i>Cinnamomum verum</i> Presl.	Lauraceae	Tree	Karruwa	Bark	Digestive disorder, diarrhoea and gastroenteritis
<i>Clerodendron viscosum</i> Vent.	Verbenaceae	Shrub	Vattakani	Leaves and root	Asthma, cough, diarrhoea and fever
<i>Cissampelos pareira</i> L.	Menispermaceae	Woody vine	Vattathirupu	Root	Stomachache, fever and intestinal worms
<i>Cissus quadrangularis</i> L.	Vitaceae	Climber	Pirandai	Leaves and stem	Bone fracture
<i>Coccinia grandis</i> (L.) Voigt.	Cucurbitaceae	Vine	Kovaikkaai	Fruit	Leprosy, fever and bronchitis
<i>Coldenia procumbens</i> L.	Boraginaceae	Herb	Serupadai	Leaves	Rheumatism
<i>Coleus ambonicus</i> Lour.	Lamiaceae	Herb	Omavalli	Leaves	Gastric problems and cold
<i>Curculigo orchoides</i> Gaertn.	Hypoxidaceae	Rhizomatic herb	Nilapanai	Rhizome	Sprines and to increase sperm count
<i>Curcuma angustifolia</i> Roxb.	Zingiberaceae	Rhizomatic herb	Kuvaikilangu	Rhizome	Peptic ulcer and Dysentery
<i>Cymbopogon flexuosus</i> (Nees. ex Steud.) Wats.	Poaceae	Herb	Elumiccaippul	Leaves	Head ache
<i>Cyperus rotundus</i> L.	Cyperaceae	Herb	Muttai kachil.	Leaves	Fever, digestive disorder
<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Vine	Nooran	Tubers	Heart burn
<i>Dodonaea viscosa</i> (L.) Jacq.	Sapindaceae	Shrub	Virallai	Young twig along with flowers and fruits	Chronic sore
<i>Eclipta alba</i> (L.) Hassk.	Asteraceae	Herb	Karicilankanni	Whole plant	Promote hair growth
<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Herb	Vishnukranthi	Whole plant	Bowel complaints and dysentery
<i>Elephantopus scaber</i> L.	Asteraceae	Herb	Annachavutadi	Whole plant	Head ache and insect bite
<i>Emilia sonchifolia</i> (L.) DC.	Asteraceae	Herb	Muyal shevi	Aerial part	Conjunctivitis, ulcer and allergy
<i>Erythrina variegata</i> L.	Fabaceae	Tree	Mullumurukku	Leaves	Rheumatic joints
<i>Gliricidia sepium</i> (Jacq.) Kunth ex Walp.	Fabaceae	Tree	Semmai Agathi	Leaves	Dermatitis, skin itching and insect repellent
<i>Gloriosa superba</i> L.	Liliaceae	Creeper	Kanthal	Rhizome	Arthritis, gout and snake bite
<i>Glycyrrhiza glabra</i> L.	Fabaceae	Herb	Athimawthram	Root	cough and cold
<i>Gymnema sylvestre</i> R. Br.	Asclepiadaceae	Climber	Sarkarakolli	Leaves	Diabetes, laxative and cough
<i>Heliotropium indicum</i> L.	Boraginaceae	Herb	Thel kodukku	Leaves	Skin ulcers and wounds
<i>Hemidesmus indicus</i> (L.) R.Br.	Asclepiadaceae	Twiner	Nannari	Roots and leaves	ulcer(root) Leprosy (leaves)
<i>Hyptis suaveolens</i> (L.) Poit.	Lamiaceae	Herb	Seemai thulasi	Leaves	Gastric ulcer
<i>Jatropha wightiana</i> Muell. Arg.	Euphorbiaceae	Shrub	kuruvatti	Leaves	Dog bite
<i>Justicia adhatoda</i> L.	Acanthaceae	Shrub	Adathodai	Leaves	Rheumatism, asthma, cough and cold
<i>Justicia gendarussa</i> L.	Acanthaceae	Herb	Neernochoi	Leaves	Chest congestion
<i>Kalanchoe pinnata</i> (Lam.) Pres.	Crassulaceae	Succulent herb	Runakalli	Leaves	Wound healing and skin ulcers

<i>Leucas aspera</i> (Willd.) Link.	Lamiaceae	Herb	Thumbai	Flower	Sinusitis, headache and intestinal worms
<i>Madhuca indica</i> J. Gmelin.	Sapotaceae	Tree	Eluppai	Seed	Paralysis and joint pain
<i>Mallotus phillipensis</i> (Lam.) Muell.Arg.	Euphorbiaceae	Tree	Kapilapodi	Fruit	Bronchitis, abdominal diseses and carminative
<i>Maranta arundinacea</i> L.	Marantaceae	Herb	Koovai kilangu	Rhizome	Ulcer and dysentery
<i>Naravelia zeylanica</i> (L.)DC.	Ranunculaceae	Climber	Neendavalli	Root	Snake bite
<i>Orthosiphon aristatus</i> (Blume) Miq	Lamiaceae	Herb	Poocha meesai	Leaves	Kidney ailments
<i>Parkinsonia aculeata</i> L.	Fabaceae	Shrub	Mulvagai	Leaves	Arthritis and fever
<i>Pedaliu murex</i> L.	Pedaliaceae	Herb	Anai neringi	Leaves	Ulcer and kidney stone
<i>Peganum harmala</i> L.	Zygophyllaceae	Herb	Simaiyaravandi	Seeds, bark and root	Nervous disorder
<i>Pergularia daemia</i> (Forssk.) Chiov.	Asclepiadaceae	Vine	Veliparuti	Aerial part	Snake bite
<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	Tree	Vengai	Heart wood	Inflammation and diabetes
<i>Phyllanthus niruri</i> L.	Euphorbiaceae	Herb	Kellanelli	Whole plant	Jaundice
<i>Piper attenuatum</i> Buch.-Ham. ex Miq.	Piperaceae	Climber	kattu nallamilaku	Leaves	Cough and cold
<i>Piper betle</i> L.	Piperaceae	Climber	vettrilai	Leaves	Insect bite
<i>Piper barberi</i> Gamble	Piperaceae	Climber	Kattumilagu	Seed	Epilepsy, insommia and cold
<i>Piper nigrum</i> L.	Piperaceae	Climber	Milagu	Seed	Flatulence and indigestion
<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Herb	Vellai koduvai	Roots	Piles, cancer, rheumatism and skin diseases
<i>Rauwolfia serpentina</i> (L.) Benth. ex Kurz.	Apocynaceae	Herb	Amalpori	Roots	Antidote for snakebite
<i>Sarcostemma acidum</i> (Roxb.) Voigt	Asclepiadaceae	Vine	Kodikkali	Root and leaves	Sinusitis and allergy
<i>Drimia indica</i> (Roxb.) Jessop	Liliaceae	Herb	Nari venkayam	Bulb	Antidote
<i>Scoparia dulcis</i> L.	Scrophulariaceae	Shrub	Kallurukki	Leaves	Kidney stone
<i>Sida acuta</i> Burm.f.	Malvaceae	Herb	Chinnakurunthoti	Leaves	Asthma and fever
<i>Sida cordifolia</i> L.	Malvaceae	Herb	Palampasi	Leaves	Bronchitis and nasal congestion
<i>Sida rhombifolia</i> L.	Malvaceae	Herb	Kurunthoti	Leaves	Swelling and diarrhoea
<i>Smilax zeylanica</i> L.	Smilacaceae	Climber	Malaithamarai	Rhizome	Nervous disorder and urinary disorder
<i>Solanum trilobatum</i> L.	Solanaceae	Climber	Thoothuvalai	Leaves	Remove phlegm in chest and cure cough
<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Tree	Naaval	Seed	Rashes in mouth, throat and intestine
<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Herb	Kattukozhinch	Leaves	Tumour, leprosy and asthma
<i>Thespesia lampus</i> L.	Malvaceae	Herb	katu paruthi	Leaves	Dysentery
<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook.f. & Thoms.	Menispermaceae	Vine	Amirtha valli	Whole plant	Diabetes, gout and Arthritis
<i>Toddalia asiatica</i> (L.) Lam.	Rutaceae	Liana	Kattu milagu	Leaves and root	Stomach problem, malaria and food poisoning
<i>Tridax procumbens</i> L.	Asteraceae	Herb	Veetukayapoond	Leaves	Wound healing, hair fall and head ache
<i>Tribulus terrestris</i> L.	Zygophyllaceae	Herb	Nerunji	Leaves	Kidney stone and eczema
<i>Trichopus zeylanicus</i> Gaertn.	Dioscoreaceae	Herb	Arogyapachai	Leaves and fruit	Improving stamina
<i>Tylophora indica</i> (Burm.f.) Merrill	Asclepiadaceae	Climber	Nanchruppan	Leaves	Bronchitis and asthma
<i>Vernonia cinerea</i> (L.)Less.	Asteraceae	Herb	Poovamkurunthal	whole plant	Stomach ache and urinary disorder
<i>Vitex negudo</i> L.	Verbenaceae	Tree	Nochi	Leaves	Arthritis
<i>Waltheria indica</i> L.	Sterculiaceae	Shrub	Karunthuti	Roots and leaves	Cough and fever
<i>Wrightia tinctoria</i> (Roxb.) R.Br.	Apocynaceae	Tree	Vepalai	Bark	Diarrhoea and bleeding piles
<i>Zingiber zerumbet</i> (L.) J.G. Smith	Zingiberaceae	Herb	Kattuinch	Rhizome	Skin diseases and antidote for snake bite

Herb	40
Climber	23
Tree	10
Shrub	9
Liana	1

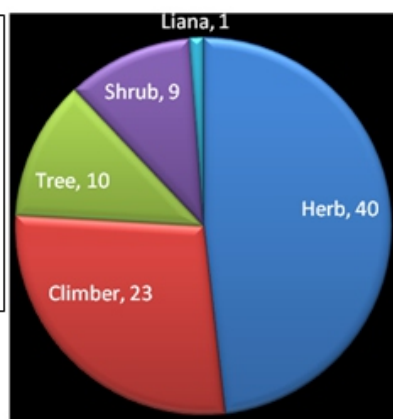


Fig : 1

Acanthaceae	3
Apocynaceae	2
Araceae	1
Aristolochiaceae	1
Asclepiadaceae	6
Asteraceae	5
Boraginaceae	2
Caesalpiniaceae	1
Convolvulaceae	1
Crassulaceae	1
Cucurbitaceae	1
Cyperaceae	1
Dioscoreaceae	2
Euphorbiaceae	4
Fabaceae	7
Hypoxidaceae	1
Lamiaceae	5
Lauraceae	1
Liliaceae	3
Malvaceae	4
Moraceae	1
Menispermaceae	3
Mimosaceae	1
Myrtaceae	1
Pedaliaceae	1
Piperaceae	4
Plumbaginaceae	1
Poaceae	1
Ranunculaceae	1
Rutaceae	1
Sapindaceae	2
Sapotaceae	1
Scrophulariaceae	2
Smilacaceae	1
Solanaceae	1
Sterculiaceae	1
Verbenaceae	2
Vitaceae	1
Zingiberaceae	2
Zygophyllaceae	2

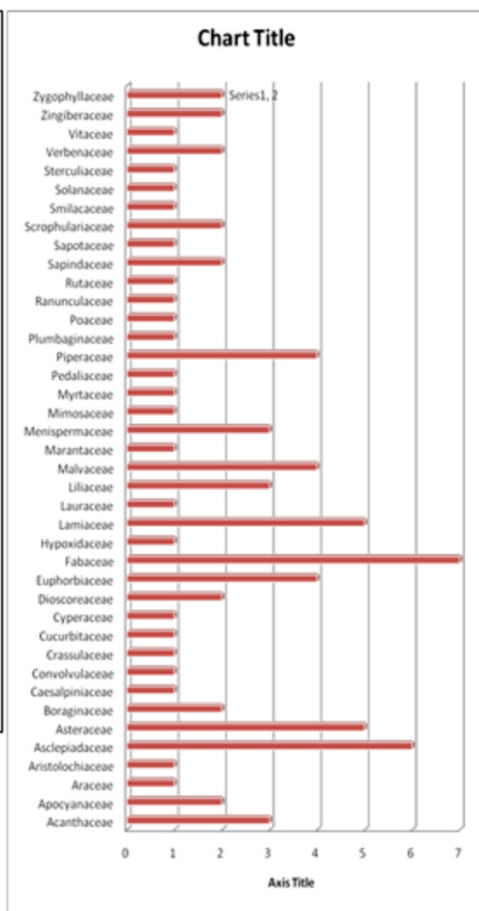


CHART: 1

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